

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-10 (cancelled).

Claim 11 (new): An electrochemically reacting composition comprising active materials aluminum, magnesium and iron, a filler material, a hydrogen scavenger, an additive and an electrolyte;
wherein said magnesium comprises 10-90% by weight of said active materials,
wherein said aluminum comprises 10-90% by weight of said active materials,
wherein said iron comprises 0-15% by weight of said active materials,
wherein said filler material comprises 5-50% by weight of said active materials,
wherein said hydrogen scavenger comprises 5-30% by weight of said active materials, and
wherein said additive comprises 0-20% by weight of said active materials.

Claim 12 (new): The composition as claimed in claim 11, wherein said magnesium comprises 15-50% by weight with a particle size varying from 1-500 μm .

Claim 13 (new): The composition as claimed in claim 11, wherein said aluminum comprises 40-75% by weight with a particle size varying from 2-100 μm .

Claim 14 (new): The composition as claimed in claim 11, wherein said iron comprises 7-12% by weight with a particle size varying from 20-200 μm .

Claim 15 (new): The composition as claimed in claim 11, wherein said filler comprises 5-25% by weight of said active materials.

Claim 16 (new): The composition as claimed in claim 11, wherein said hydrogen scavenger comprises 5-20% by weight of the said active materials.

Claim 17 (new): The composition as claimed in claim 11, wherein said additive comprises 0-10% by weight of said active materials.

Claim 18 (new): The composition as claimed in claim 11, wherein said hydrogen scavenger is selected from the group consisting of copper chloride, ferric chloride, and potassium permanganate.

Claim 19 (new): The composition as claimed in claim 11, wherein said electrolyte is a salt of strong active and strong or weak base.

Claim 20 (new): A process for the preparation of an electrochemically reacting composition as claimed in claim 11, comprising the following steps:

- (i) preparing active materials by placing commercially available 10-90% magnesium by weight of the entire active materials, having particle size varying from 1-500 μm , 10-90% aluminum by weight of the entire active materials, having particle size varying from 2-100 μm , and 0-15% iron weight wise of the entire active materials and having particle size varying from 20-200 in the container of a conventional ball mill;
- (ii) adding to said active materials a filler material 5-50% weight wise over the weight of the said active materials;
- (iii) ball milling the mix of said active materials and the said filler material for about 4-6 hours and transferring the entire mix to another container after completion of the ball milling operation;
- (iv) adding a hydrogen scavenger 5-30% weight wise over the entire weight of the active materials and mixing thoroughly to obtain a homogenous mix;

- (v) adding an additive 2-20% weight wise over the entire active materials to the homogenous mix obtained from step (iv);
- (vi) adding any salt of strong acid and strongly or weak base 2-10% weight wise over the weight of the entire active materials to the mix obtained from step (v);
- (vii) compacting of the entire mix obtained from step (v) through a conventional pressing machine and giving it a desirable shape such as strip or pellet;
- (viii) storing the compacted and cut electrochemical heat source in air tight containers such as pouch to avoid ingress of water.

Claim 21 (new): The composition as claimed in claim 19, wherein said salt is selected from the group consisting of potassium chloride, sodium chloride and ferrous sulphate.

Claim 22 (new): The composition as claimed in claim 11, wherein said filler is selected from the group consisting of silica sand and an organic filler.

Claim 23 (new): The composition as claimed in claim 22, wherein said organic filler is polyethylene or polypropylene.

Claim 24 (new): The process of claim 20, wherein said composition comprises the following amounts of constituents by weight of the active materials: magnesium 15-50%, aluminum 40-75%, iron 7-12%, filler 5-25%, hydrogen scavenger 5-20%, additive 2-10%, and salt 5-10%.

Claim 25 (new): The process of claim 20, wherein step (iii) is carried out in an inert argon atmosphere.